

IN THE CLAIMS:

Please amend the claims of this application so as to read as follows:

1-27. (Canceled, without prejudice)

28. (Currently Amended) A data storage medium with display data recorded thereon, wherein the display data is recorded in the form of pre-specified units, each pre-specified unit of display data including data to be displayed, and all display information and scroll display control information necessary for the display and/or scroll display of said data to be displayed, and wherein the scroll display control information ~~specifies~~ defines a plurality of intervals that together form a scroll path along which scrolling is to be conducted, the intervals forming the scroll path being specified by line segments having different directions in a co-ordinate system defined by said pre-specified unit ~~the scroll path of the display of the display information along which scrolling is to be conducted as line segments having different directions in a coordinate system defined by said pre-specified unit~~ according to coordinate values assigned to the display information data to be displayed in said pre-specified unit.

29. (Previously Presented) The data storage medium with display data recorded thereon as defined in claim 28, characterized in that each pre-specified unit of recorded display data is a page.

30. Canceled, without prejudice.

31. (Currently Amended) A data storage medium with display data recorded thereon as defined in claim 28, characterized in that the scroll display path includes information for linking with another scroll display path ~~of another pre-specified unit~~.

32. (Currently Amended) A data storage medium with display data recorded thereon wherein the display data is recorded in the form of pre-specified units, each pre-specified unit of display data including data to be displayed, and all display information and scroll display control information necessary for the display and/or scroll display of said data to be displayed, and wherein the scroll display control information includes ~~information specifying~~ a scroll display speed.

33. (Previously Presented) A data storage medium with display data recorded thereon as defined in claim 28, characterized in that the scroll display control information includes information specifying display information associated with selected areas of said coordinate system defined by said pre-selected unit for scroll display.

34. (Previously Presented) A data storage medium with display data recorded thereon as defined in claim 28, characterized in that the scroll display control information includes information for specifying a scale of enlargement or reduction of a display area for scroll display.
35. (Currently Amended) A data storage medium with display data recorded thereon according to Claim 28 wherein the display data is recorded in the form of pre-specified units, each pre-specified unit of display data including display information and scroll display information, wherein the scroll display control information includes synchronous reproduction information for specifying non-motionless data to be reproduced in synchronism with the scroll display.
36. (Currently Amended) A display device for reproducing and displaying the storage medium with display data recorded thereon as defined any one of claims 28 to ~~28~~ 29, 31, 32, 33, 34 or 35, comprising a display controller for performing scroll display based on the scroll display control information.
37. (Currently Amended) A display device as defined in claim 36, further comprising a scroll indicating means for scroll display, and wherein said scroll display is conducted based on the scroll display information only while a user instructs said display controller to perform scroll display in either forward or backward directions along said scroll path.

38. (Currently Amended) A data storage medium with display data associated with an entire document or the like recorded thereon, said display data including image data objects for display on a display screen, and all management information associated with each of said image data objects and all information for scroll display ~~on said display screen~~ associated with each of said image data objects necessary for the display and/or scroll display of said image data objects, comprising:

a computer readable medium in which said display data is recorded in the form of distinct files, each said file containing a pre-selected portion of said display data including image data objects along with all of their respective associated management information and information for scroll display necessary for their display and/or scroll display, wherein said information for scroll display includes scroll path information defining a plurality of intervals that together form a scroll path, said intervals being specified by line segments having different directions in a co-ordinate system defined by specifying the scroll path along which scrolling of each of said image data objects or groupings thereof associated therewith is to be conducted as line segments having selected different directions in a coordinate system defined by said file according to coordinate values assigned to said image data object or groupings thereof objects in said file.

39. (Previously Presented) The data storage medium with display data recorded thereon as defined in claim 38, characterized in that the pre-selected portion of said display data is a page grouping of said image data objects.

40. Canceled, without prejudice.

41. (Currently Amended) A data storage medium with display data recorded thereon as defined in claim 38, characterized in that the ~~information for scroll display path~~ associated with the image data objects contained in each one of said files includes information for linking the display of the image data objects contained in each one of said files with ~~information for the scroll display path~~ of the image data objects contained in at least another one of said files.

42. (Currently Amended) A data storage medium with display data recorded thereon as defined in claim 38, characterized in that the information for scroll display includes ~~information on~~ a scroll display speed.

43. (Previously Presented) A data storage medium with display data recorded thereon as defined in claim 38, characterized in that the information for scroll display includes information for specifying a scroll display area on the display screen of a display device.

44. (Previously Presented) A data storage medium with display data recorded thereon as defined in claim 38, characterized in that the information for scroll display includes information for specifying a scale of enlargement or reduction of a display area for scroll display on the screen of a display device.
45. (Previously Presented) A data storage medium with display data recorded thereon as defined in claim 38, characterized in that the information for scroll display associated with each image data object includes synchronous reproduction information for specifying other data to be reproduced in synchronism with the scroll display of each image data object.
46. (Currently Amended) A display device for reproducing and displaying the files recorded on the storage medium with display data recorded thereon as defined any one of claims 38 to 39, 41, 42, 43, 44 or 45, comprising a display controller performing scroll display based on the information for scroll display.
47. (Currently Amended) A display device as defined in claim 46, further comprising a scroll indicating means for monitoring the scroll display of said image data objects on a display screen of said display device ,and wherein said scroll display is conducted based on the scroll display information only while a user instructs said display controller to perform scroll display in either forward or backward directions along said scroll path.

48. (Previously Presented) A data storage medium with display data recorded thereon according to claim 28, wherein the scroll display control information specifies the scroll path of the display of the display information as vectors identified by co-ordinate values of said pre-specified units in a coordinate system defined by said display data according to coordinate values assigned to the display information in each said pre-specified units.
49. (Previously Presented) A data storage medium with display data recorded thereon according to claim 48, wherein a sequential display of said pre-specified units of display data is conducted along said vectors.
50. (Previously Presented) A data storage medium with display data recorded thereon according to claim 28, wherein the scroll display control information specifies the scroll path of the display of the display information as vectors identified by co-ordinate values of said pre-specified units in a coordinate system defined by said display data according to coordinate values assigned to the display information in each said pre-specified units; and wherein a sequential display of said pre-specified units of display data is conducted along said vectors.

51. (Previously Presented) A data storage medium with display data recorded thereon according to claim 38, wherein the information for scroll display specifies the scroll path of the display of the image data objects as vectors identified by co-ordinate values of said image data objects in a coordinate system defined by said files according to coordinate values assigned to said image data objects in each said files.

52. (Currently Amended) A data storage medium with display data recorded thereon according to claim 51, wherein a sequential display of said image data objects is conducted along said vectors.

53. (Previously Presented) A data storage medium with display data recorded thereon according to claim 38, wherein the information for scroll display specifies the scroll path of the display of the image data objects as vectors identified by co-ordinate values of said image data objects in a coordinate system defined by said files according to coordinate values assigned to said image data objects in each said files, and wherein a sequential display of said image data objects is conducted along said vectors.

54. (Previously Presented) A data storage medium with display data recorded thereon as defined in claim 28, characterized in that the scroll display control information includes a scale of enlargement or reduction of a display area for scroll display.

55. (Previously Presented) A data storage medium with display data recorded thereon as defined in claim 38, characterized in that the information for scroll display includes a scale of enlargement or reduction of a display area for scroll display on the screen of a display device.